IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of determining total left ventricular (LV) interior volume during a cardiac cycle from a cardiac cine series, said method comprising the ~~steps~~ acts of:

delineating endocardial and epicardial contours of a left ventricle in all slices of said cine series at end-diastole (ED),

applying the endocardial contours delineated at the ED to all phases of the cardiac cycle, ~~and~~

calculating the total LV interior volume based on intensity values inside the endocardial contours delineated at the ED, and

compensating for myocardium enclosed in the endocardial contours delineated at the ED during subsequent phases of the cardiac cycle.

2. (Currently Amended) The method according to claim 1,

further comprising the act of calculating a mean intensity for

myocardium and blood voxels at the ED based on the delineated

endocardial and epicardial contours.

3. (Currently Amended) The method according to claim 2,

further comprising using the mean intensities for the compensating

act~~for myocardium enclosed in the endocardial contours delineated~~

~~at ED during subsequent phases of the cardiac cycle~~.

4. (Currently Amended) The method according to claim 3,

wherein the LV interior volume is calculated as

$$V_{LV} = \sum_{i=1}^{n} V_{ED,i} \frac{I_{T,i}}{I_{T,ED}} \quad , \text{ wherein}$$

n is the total number of slices comprising the LV total

interior volume,

$V_{ED,i}$ is the calculated interior volume of slice number i of

the LV at end-diastole of the LV,

$I_{T,i}$ is the detected intensity of slice i within the

endocardial delimitation, and

$I_{T,ED}$ is the total intensity at the ED.

5. (Previously Amended) The method according to claim 1, wherein the cine series is a short-axis study of the heart consisting of multiple slices covering at least the left ventricle and multiple phases within the cardiac cycle.

6. (Currently Amended) The method according to claim 1, further comprising the act of determining the LV volume from cine sequences acquired at different stress levels, whereby the temporal behaviour of the heart as a function of increasing stress is determined.

7. (Currently Amended) The method according to claim 1, wherein said cine series is/are is captured previously to said method on a device for imaging inside parts of a mammal body.

8. (Original) The method according to claim 7, wherein said device for imaging inside parts of a mammal body is a Magnetic Resonance (MR), Computer Tomography (CT), Nuclear Medicine (NM) or Ultrasound (US) device.

9. (Original)   The method according to claim 8, wherein an MRI study comprises Steady State Free Precession (SSFP) images.

10. (Currently Amended)   The method according to claim 1, further comprising the act of compensating motion of the heart.

11. (Currently Amended)   A computer-readable medium (90) having embodied thereon a computer program for processing by a computer (91) for calculating total left ventricular (LV) volume during a cardiac cycle from a cine series, the computer program comprising:

a first code segment (92) for delineating endocardial and epicardial contours of a left ventricle in all slices of said cine series at end-diastole (ED),

a second code (93) segment for applying the endocardial contours delineated at ED to all phases of the cardiac cycle, and

a third code segment (94) for calculating the total LV volume based on intensity values inside the endocardial contours delineated at the ED including compensating for myocardium enclosed in the endocardial contours delineated at the ED during subsequent

<u>phases of the cardiac cycle</u>.

12.(Original)   The computer-readable medium according to claim 11, wherein said first code segment automatically delineates the endocardial and epicardial contours.

13.(New)   The method of claim 1, wherein the compensating act includes deleting contribution of the myocardium enclosed in the endocardial contours.

14.(New)   The computer-readable medium of claim 11, wherein contribution of the myocardium enclosed in the endocardial contours is removed.